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**WO 03/037008 A2**

**(54) Title:** A SURVEY METHOD UTILIZING MOBILE INTERNET PHONES ENABLED WITH WIRELESS APPLICATION PROTOCOL (WAP)

**(57) Abstract:**

**[DESCRIPTION]****[NAME OF INVENTION]**

A survey method utilizing mobile Internet phones enabled with Wireless Application Protocol (WAP)

5

**[BRIEF DESCRIPTION OF THE DRAWINGS]**

FIG. 1 is a flow chart illustrating a survey method by utilizing members of mobile subscribers;

10 FIG. 2 is a flow chart illustrating a survey method by utilizing Short Message Service (SMS) sent to panels of surveys;

FIG. 3 describes that how the present invention conducts surveys on its mobile phone display;

15

FIG. 4 shows that the present invention is able to embody a variety of survey questionnaires on its display including even essay-type questions;

20 FIG. 5 and FIG. 6 demonstrate extended ways of survey methods by utilizing sounds and graphics offered by this invention; and

FIG. 7 illustrates "Free survey corner" by which any mobile subscribers joining a membership can create their own survey questionnaires with choices on the present invention to get the results.

**[BACKGROUND OF THE PRESENT INVENTION]**

The present invention is designed to conduct surveys by utilizing mobile Internet phones enabled with Wireless Application Protocol (WAP) that offers sounds, graphics and moving graphics as well as Short Message Service (SMS). In 5 recent years, the numbers of domestic mobile subscribers are up to 26,895,763(persons) according to the Ministry of Information and Telecommunication in November 2000 following many wireless communication devices, including mobile phones, have spread to people. The number of this coverage is 10.12 percents bigger than conventional telephones.

10

The numbers of mobile Internet phone users was 15,785,000 out of total number of mobile phone users, and the number is on the rise according to the Ministry of Information and Telecommunication in November 2000.

15 So the competition was fierce to dominate the mobile phone market, and accordingly mobile service providers required seeking not just the sound but new telecommunication media in an effort to attract their new subscribers. The demand for new mobile service has led the market to create new mobile phone contents.

20

Therefore all sorts of contents provided by the conventional Internet have moved to the mobile Internet, and the contents have also become diverse. In order to use various mobile Internet contents, we need to have IWF (Inter Working Function) and browsers installed at the mobile Internet devices just like

we need the Internet browsers such as Internet Explorer and Netscape Navigator that help us access the conventional Internet.

There are several kinds of mobile Internet browsers such as ME (Mobile Explorer) produced by Microsoft in the U.S.A., i-mode by NTT DoCoMo in Japan and Anyweb by Samsung in South Korea. However, the browsers can be classified into two types—HTML (Hyper Text Markup Language) and WAP (Wireless Application Protocol)—in terms of their languages written at mobile Internet devices.

10

We adopted a mobile Internet phone utilizing Wireless Application Protocol (WAP) to embody the present invention because that device is able to provide many advantages: first, we can embody the most appropriate mobile contents, comparing to HTML type of language; second, there are many companies manufacturing WAP-based mobile Internet devices such as UP, AUR, Ericsson, Nokia, MSMB and SK Telecom.

Since the number of mobile phone users is bigger than that of conventional telephone users, and the mobile device has shifted into a WAP-based mobile Internet rather than just a mobile phone, many survey companies have considered it as important survey method; numbers of sample population is one of the most important factors to survey companies.

Mobile Internet has been overwhelming conventional telephone market in

recent years in terms of the number of its subscribers and awakening many survey companies to inform them of an arrival of new survey solution.

Conventionally there have been two kinds of survey methods--the online and 5 offline survey. For example, the Internet survey utilizing the conventional wired Internet is a kind of online survey, while offline surveys include an interview, a focus group interview, a telephone survey and a mail survey etc. The most appropriate survey method to get the fastest and accurate results has been considered as an online survey utilizing the Internet following the advent of wide 10 spread use of the Internet. Through this survey method, a survey company is able to instantly collect answer data from its samples and analyzes them.

But online survey has had two disadvantages--limits in its time and space. All 15 the respondents participating in a survey must sit in front of computers to access the survey corner and answer to the questionnaires almost at the same time. That way, survey companies can get the results during a specific survey duration.

Because of the previous inconveniences, a new survey solution called a mobile 20 survey enabled with Short Message Service (SMS) has emerged to solve the problems even though it seemed to be very similar to a conventional telephone survey in terms of its survey solution.

A mobile survey is the same as the present invention with regard to sending

Short Message Service to its subscribers in order to request a survey. But this invention does not conduct a survey by only utilizing Short Message Service.

Even though this invention uses SMS, it just informs participants of an arrival of survey request. If a mobile subscriber wants to take part in the survey, he/she

5 needs to press a "send" button of mobile phones to connect Automatic Response System (ARS) that sends them survey questionnaires with voice. In this way, participants are able to answer to the survey by pressing buttons on the mobile phones.

10 But this survey system limits its users to a specific time and space: (a) the participants cannot give their answers until they completely understand what the question says; (b) the voice message provided by ARS is a limited communication medium in terms of sending and receiving only by voice because some participants might have a problem with hearing.

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#### **[DISCLOSE OF INVENTION]**

There are two survey methods by utilizing this invention in terms of ways of participating in surveys that include: (a) a survey corner that is accessed and answered by mobile Internet subscribers called "Non-panel members" who

20 joined a membership of survey companies as sample population even though they are not obligated to respond to all surveys; (b) a survey corner that is accessed and answered by mobile Internet subscribers called "Panel members" who joined a membership of survey companies as panelists and agreed to answer to all surveys after receiving Short Message Service (SMS).

In addition to that, this invention has other features. The answer data collected from participants is instantly transferred to server computers belonging to a survey company through wired or wireless telecommunication system just after answering to the survey questionnaires. The server computers, then, 5 statistically analyze the answer data on real time to get the instant results, and finally send them to clients who requested the survey.

There are twelve procedures required embodying this invention, which follow:

(1) a survey company must secure a large number of samples who have their 10 own mobile Internet devices enabled with WAP browser and join a membership of the company; (2) a server computer pertaining to a survey company must classify members' individual information into their demographic categories in order to efficiently conduct surveys; (3) classifying our members into panels and general members in the process of categorizing by members' demographical 15 information; (4) sharing members' information with a mobile telecommunication company and a survey company by transferring members' data each other; (5) extracting the most appropriate panels from members' data in conducting surveys based on their information; (6) transferring panels' data to a mobile telecommunication company; (7) sending Short Message Service to panel 20 members in order to inform them of arrival of survey questionnaires; (8) a mobile telecommunication company must store survey questionnaires at its server computers and send them to WAP-based mobile Internet devices for a specific period of time in order for general members to answer to them; (9) answer data obtained from members should be stored at server computers

belonging to a mobile telecommunication company; (10) the answer data should be transferred to server computers belonging to a survey company; (11) a survey company must analyze the answer data transferred from a mobile telecommunication company; (12) sending the survey result to client who 5 requested the survey.

A survey company providing the present invention is considered as one of many Contents Providers (CP) belonging to a mobile telecommunication company that utilizes a WAP-based mobile Internet device to provide such services, 10 however, this invention is designed to conduct only surveys. This invention has to follow such procedures to embody its purpose. That way, a survey company can provide its clients with the fastest and accurate results.

#### **[DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS]**

15 In order to achieve a purpose of the present invention, we need several stages that include: (1) a survey company must secure at least over 1,000 panel member of mobile subscribers who agreed to respond to all surveys; (2) classifying the members data into demographic categories such as ages, genders and occupations etc.; (3) sharing categorized members' data with a 20 mobile telecommunication company and a survey company via wired or wireless telecommunication; (4) extracting the most appropriate samples from panels' data to carry out specific surveys; (5) a mobile telecommunication company must send SMS (Short Message Service) including Call Back URL to panel members located in specific regions, at the same time; (6) a mobile

telecommunication company must store survey questionnaires at its server computers for a specific period of time and send the survey data to non-panel members' mobile Internet devices in order for them to access the survey corner and answer to that at any time convenient; (7) a mobile telecommunication company must receive the answer data and store it at its server computers; (8) the answer data should be transferred to server computers pertaining to a survey company via wired or wireless telecommunication; (9) a survey company should analyze the answer data by utilizing its statistical analysis program; (10) a survey company must send the survey result to its clients following appropriate procedures required making a refined report.

The disclosed invention will be described with reference to the accompanying drawings, which show important embodiments of the invention.

15 FIG. 1 describes an operating system of panel research utilizing SMS (Short Message Service) by which a survey company is able to request surveys to its panel members. The SMS is sent to only a panel member who agreed to answer the survey.

20 First, a WAP-based mobile subscriber (1) should register as a panel member of survey company (2) by accessing conventional or mobile Internet. And there are two methods to register as a panel member that follow: (1) a mobile subscriber must input his/her personal information and agree with articles pertaining to a survey company by accessing a survey company's homepage; or (2) a mobile

subscriber must input his/her personal information and agree with articles pertaining to a survey company by accessing mobile Internet devices.

When the registration procedure is over, members' personal information is

5 stored at server computers of a survey company or a mobile telecommunication company.

In this process, a survey company needs a specific number of members that is

necessary to carry out surveys. Appropriate ways to attract the members are

10 promotion events or refunding services provided by a survey company; for instance, giving them out some type of gifts or deducting a specific amount of money from their monthly mobile phone charge by their mileage or point obtained from answering to survey questionnaires.

15 A deduction of monthly mobile phone charge is, particularly, a good method to improve an answering rate or answerers' loyalty to survey questionnaires. This is a good way to attract them comparing to a conventional telephone survey that only demands sample's answers without any refunding service.

20 And a survey company has to specify a refunding service to the members by showing articles as well as their rights and duties before they register as members.

All members' personal information is stored at server computers pertaining to a

survey company as database, and is classified into their demographic information. A survey company extracts (4) the most appropriate samples' data from panel members' data stored at server computers and transfers it to a mobile telecommunication company that eventually sends SMS to the panel members in order for them to be aware of arrival of survey request.

This SMS must include Call Back URL that makes panel members easily access to survey corners embodied in mobile Internet devices. We will find our mobile phones showing the displays like FIG. 3 when we access the survey

10 corner. Then the panel members directly participate in the survey without a certification procedure because they are already certified as panel members by sending SMS.

There are five types of survey questionnaires as appeared in FIG. 4, which

15 include: (1) essay type questions without choices; (2) questions with multi-choices to choose just one answer; (3) questions mixed with both (a) and (b) type; (4) questions with multi-choices to choose more than one answer; (5) questions with two possible choices.

20 Through this invention, a survey company is able to obtain more reliable results by asking various types of questionnaires to its sample population. In some aspects, these types of survey questionnaires are very similar to conventional offline surveys such as telephone surveys or face-to-face interviews etc.

The data stored at the procedure (7) is transferred (8) from a mobile telecommunication company to server computers belonging to a survey company.

5 The data transferred to a survey company is analyzed by a social statistics program on real time (9). But the result obtained from the program is just a raw data that does not include any detailed consulting advices. Therefore, a survey company utilizes its consultants and survey analysts to make more detailed and refined report before sending to clients (10).

10

But the present invention does not include the procedure (10) because it can be taken much time and efforts to complete this procedure according to the quality of reports. However, this invention demands the shortest time to get a raw data obtained from panel members, comparing to existing other survey solutions.

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A panel research ensures the accuracy of survey results because a survey company extracts the most appropriate samples' data classified into their demographic information. And this type of extracted samples' data is very useful for a survey company to conduct specific surveys.

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FIG. 2 describes the other type of survey method embodying in this invention in which a survey company requests surveys to its non-panel members by providing survey corners embodied in mobile Internet devices. One of the features in this survey method is that non-panel members can access to survey

corners to respond to that at anytime, anywhere convenient as long as the survey duration permits.

All mobile Internet subscribers who want to become members of a survey

5 company can join a membership by accessing conventional or mobile Internet.

And server computers pertaining to a survey company automatically classifies

(3) the member's information into their demographic categories (2) based on their ages, genders, regions and monthly incomes etc.

10 As for the procedure of joining a membership, articles containing members' rights and duties as well as promotion events and refunding services are also shown to mobile Internet subscribers just like a panel research appeared on FIG. 1.

15 Giving them out some gifts or deducting a specific amount of money from their monthly mobile phone charge is good examples to attract them.

After acknowledging the articles, the members go to a certification procedure to identify themselves (2 of FIG. 3) by returning to the first menu (1 of FIG. 3)

20 following joining a membership.

After completing the certification procedure, members are able to choose one of the surveys to participate in it. There are various kinds of surveys such as CSI (Consumer's Satisfaction Index), marketing research, public opinion polls and

survey on broadcastings and newspapers (3 of FIG. 3).

But to some specific surveys such as on "the Teenagers' Consciousness"

appeared on 4 of FIG. 3 demands specific samples categorized by their

5 demographic information. Only teenagers can participate in this survey. If a participant is not a teenager, he/she cannot participate in the survey and receives error message at the stage of 4 of FIG. 3. The reason for receiving error message is that the participant's personal information stored at server computers does not fit for accessing to the survey corner that is programmed to  
10 respond to only teenagers.

So the survey utilizing non-panel members also keeps its accuracy that fits for the purpose of survey. The rest of the procedures are the same as FIG. 1.

15 FIG. 5 and FIG. 6 describe the most extended ways of surveys by utilizing this invention. One of the features of WAP-based mobile Internet devices is that they utilize new telecommunication media--SMS, graphics, moving graphics as well as voice--to help their subscribers communicate each other or connect them to a mobile telecommunication company and a survey company. It is  
20 because this device is basically designed to embody all possible communication media in mobile Internet phones by shifting conventional Internet services to the new device.

A survey company is able to conduct more various surveys by the help of above

advantages that range from a survey on new design to a survey on background music of game (FIG. 5) and (FIG. 6).

FIG. 7 describes that the present invention does not limit its uses to helping its  
5 subscribers communicate each other or connecting them to a mobile telecommunication company and a survey company. The uses of this invention are limitless by shaping a cyber space called a mobile community, for instance, just like the Internet community in which members can share their ideas to form opinions.

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To begin with, mobile subscribers who passed a certification procedure (1, 2 of FIG. 7) choose "Free survey corner" at the stage of 3, then access to "Current Surveys"(1 of 4 on FIG. 7) to check out current conducting surveys or to choose 2 of 4 to create their own surveys by indicating appropriate number of questions  
15 and choices as they intended.

After indicating each number for questions and choices, the display creates exact number of blanks and subscribers input their questions and choices in the blanks. When the subscribers complete that procedure, the "Free survey" data  
20 they created is stored at 1 of 4 directory. In that way, other members who randomly access to the corner will respond to that. And the subscribers who created their own surveys are able to check the result out any time convenient. But "Free survey" corner does not ensure the accuracy of results or fit for the

purpose of surveys because participants responding to the survey corner only passed a certification procedure that only ensures their membership.

5 The "Free survey corner" is designed to provide mobile subscribers with a cyber community in which the mobile Internet subscribers share their ideas and information to shape their opinions. Therefore, this corner limits its uses in terms of the accuracy of surveys and promptness to get results.

10 This invention utilizes all possible communication media such as voice, letter, graphics and moving graphics to carry out surveys. But this invention does not limit its uses to such communication media, as mentioned above. Other possible forms of communication media can be included in the devices by a survey company, a mobile telecommunication company, producers of mobile Internet devices and software providers, if necessary, as long as it does not 15 breach the idea of present invention. Even though the drawings of this invention only introduce a part of its applications, it additionally includes all kinds of surveys as long as it utilizes WAP-based mobile Internet devices within the intention of this invention.

20 According to previous descriptions of the present invention, WAP-based mobile Internet phone subscribers are able to access to survey corners embodied in the devices at anytime, anywhere convenient as long as they hold the devices, or answer to surveys after receiving SMS (Short Message Service) sent by a mobile telecommunication company.

In conclusion, a survey company is able to conduct all kinds of surveys by utilizing the present invention because WAP-based mobile Internet devices can provide its subscribers with every possible communication media by which the subscribers communicate each other or connect to a survey company and a telecommunication company at anytime, anywhere convenient.

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**【CLAIMS】**

What is claimed is:

1. at least over 1,000 mobile Internet subscribers who own WAP-based mobile Internet devices and join a membership of a survey company:
  - 5 (a) at least over 1,000 members are the minimum number of samples that are statistically required to conduct all kinds of surveys;
  - 10 (b) there are two kinds of methods to join a membership; 1) by accessing to the registration corner embodied in the Internet homepage pertaining to a survey company, or 2) by accessing to the registration corner embodied in the mobile Internet devices pertaining to a mobile telecommunication company.
- 15 2. promotion events or refunding services to attract the mobile Internet subscribers as samples belonging to a survey company which include:
  - 20 (a) deducting a specific amount of money from members' monthly mobile phone charge according to their mileage or points obtained from their responding to surveys;
  - (b) giving them presents or money as compensation for responding to surveys;

3. all possible communication media in conducting surveys provided by WAP-based mobile Internet devices:

as previously mentioned, the communication media includes voice, graphics,

5 letter and moving pictures, however, it does not exclude other possible communication media that can be embodied in WAP-based mobile Internet devices by utilizing current or future technologies.

4. a method that is able to instantly obtain a survey result in the process of  
10 sending SMS through getting the survey result:

in the process of analyzing the survey result, the answer data obtained from members is stored at server computers pertaining to a mobile telecommunication company and is sent to server computers of a survey

15 company through conventional or mobile Internet;

the answer data is analyzed by a social statistics program installed at server computers pertaining to a survey company in order to obtain the survey result;

20 the survey result is embodied in the Internet homepage pertaining to a survey company or in the display of WAP-based mobile Internet phones pertaining to a mobile telecommunication company;

"the survey result" is not a form of refined report, but just a raw data that is not

**properly processed by survey analysts or consultants belonging to a survey company.**

5

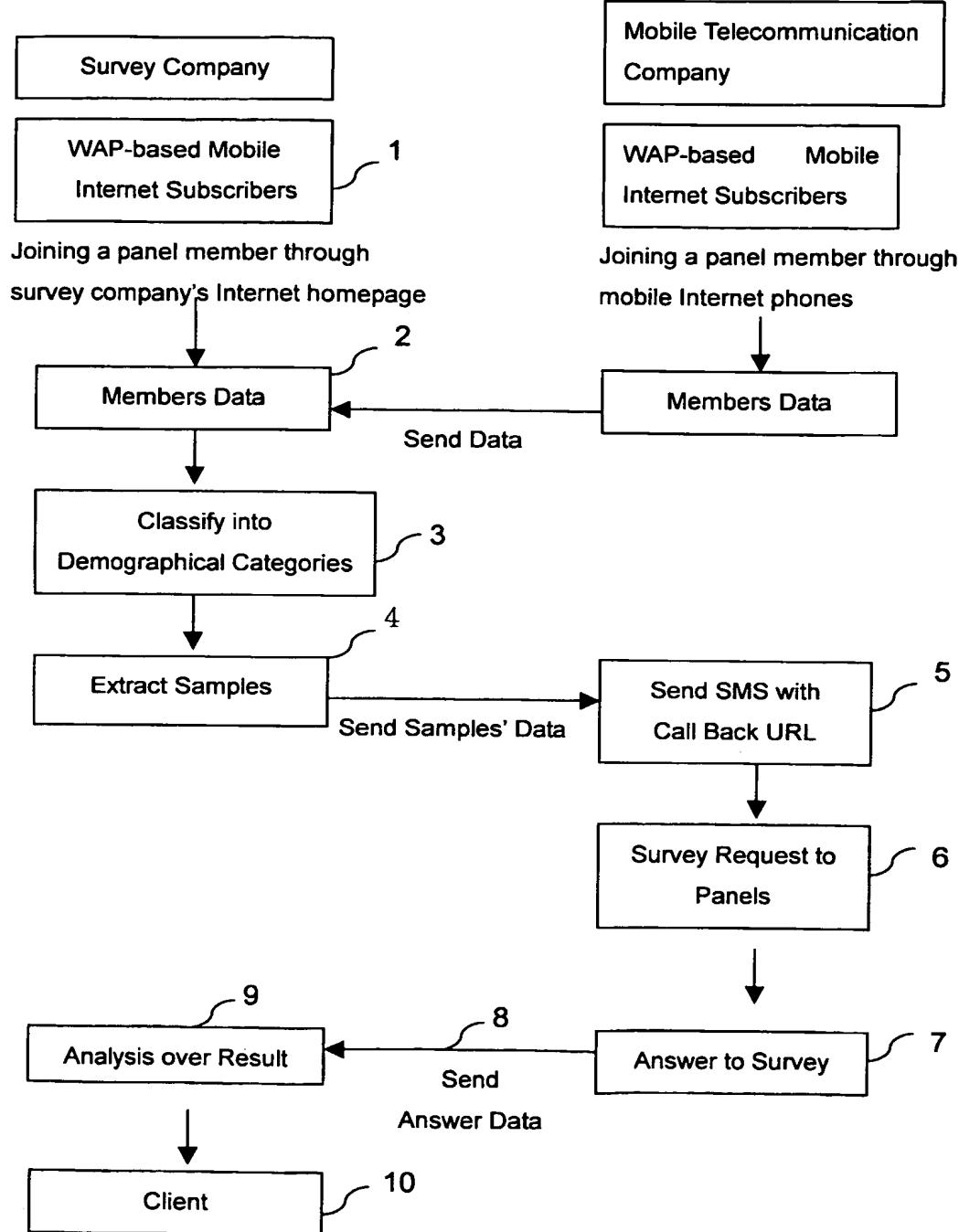
10

15

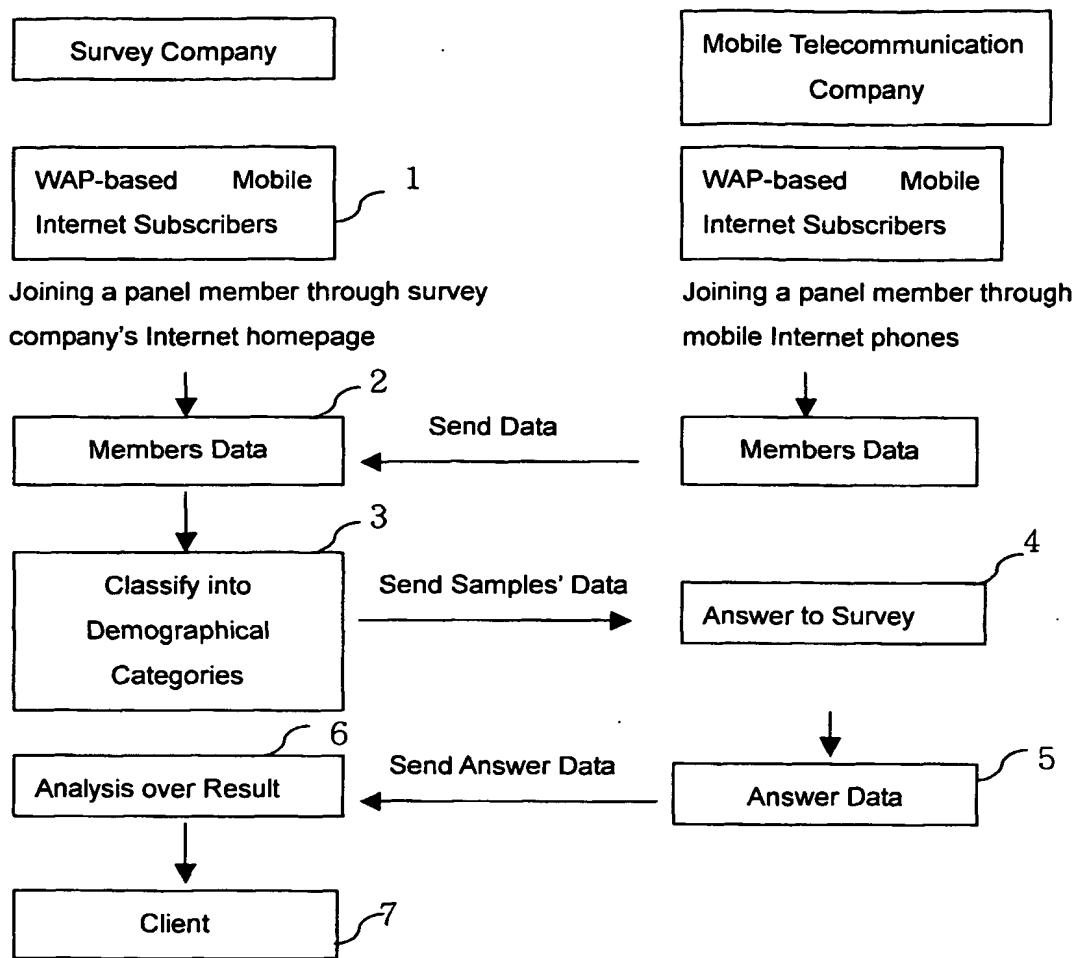
20

## 【DRAWINGS】

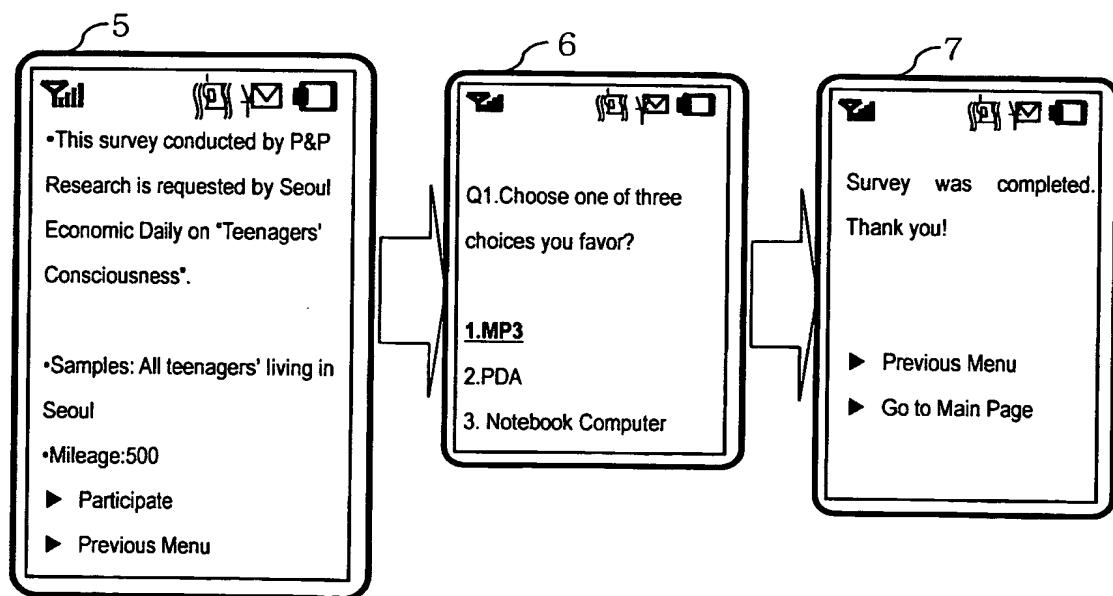
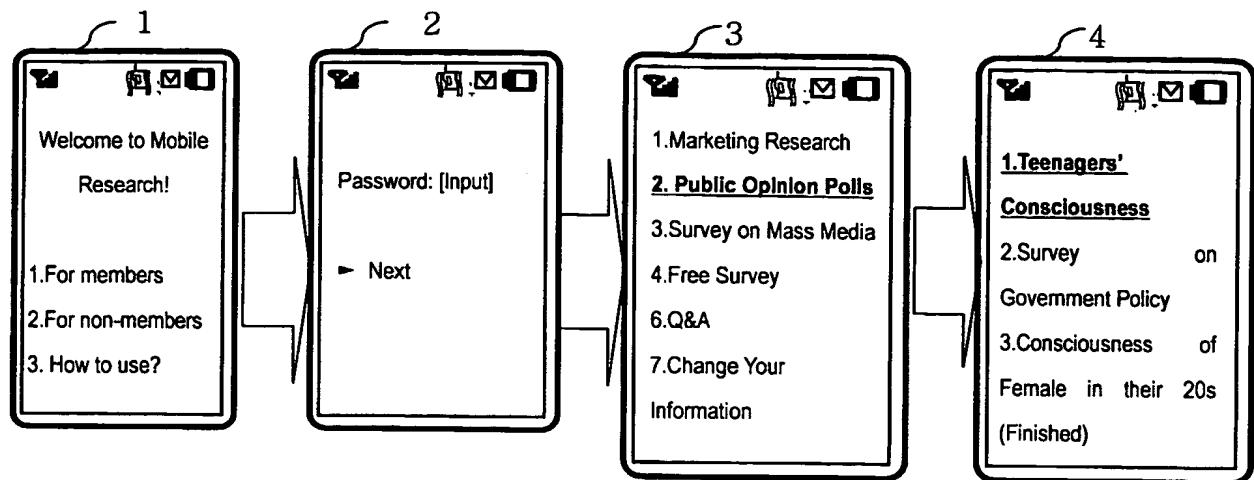
【FIG. 1】



【FIG. 2】



【FIG. 3】



**[FIG. 4]**

1. Question with multi-choices to choose one answer

Q1. Do you have a refrigerator?

1. Yes  
2. No

2. Question with multi-choices to choose more than one answer

Q1. What's the reason of current economic depression?

[v] Company's managerial failure  
[v] Government policy  
[ ] Foreign products  
[ ] Low in export

▶ Next

3. Essay-type question

Q1. Who is your favorite female model for cosmetics commercials?

[Input]

**4. Question Mixed with 2 and 3 type above**

Q1. What is your favorite transaction bank?

[v] S Bank  
[ ] J Bank  
[v] K bank  
[ ] Y bank  
[v] Others

▶ Next

Please input other banks if you have any.

[Input]

▶ Next

**5. Question with Two Possible Choices**

Q1. Have you ever traded stocks?

1. Yes  
2. No

1. If you chose "yes"

Q2. How about the result of stock trading?

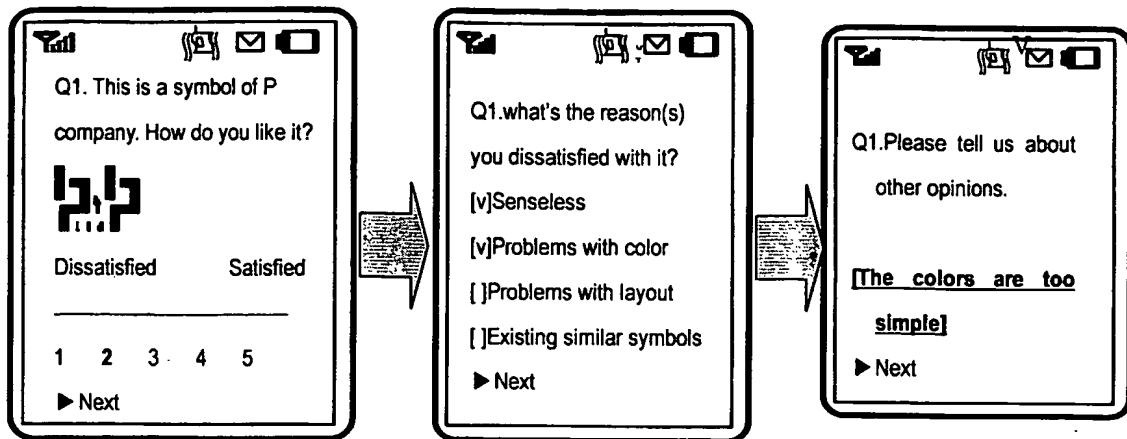
1. Got profits  
2. Lost money  
3. No profit no lost

2. If you chose "no"

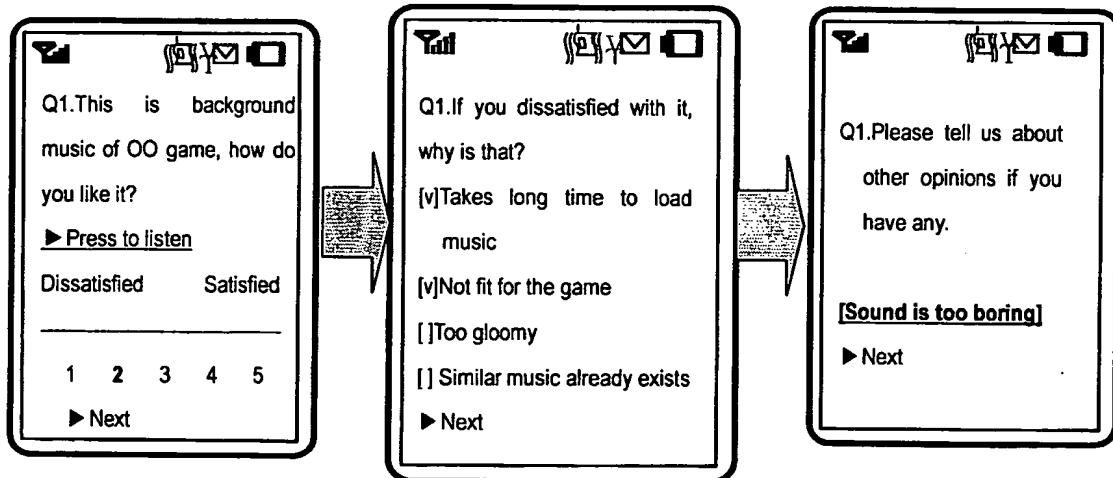
Q3. What do you think about stock trading?

.....  
.....  
.....

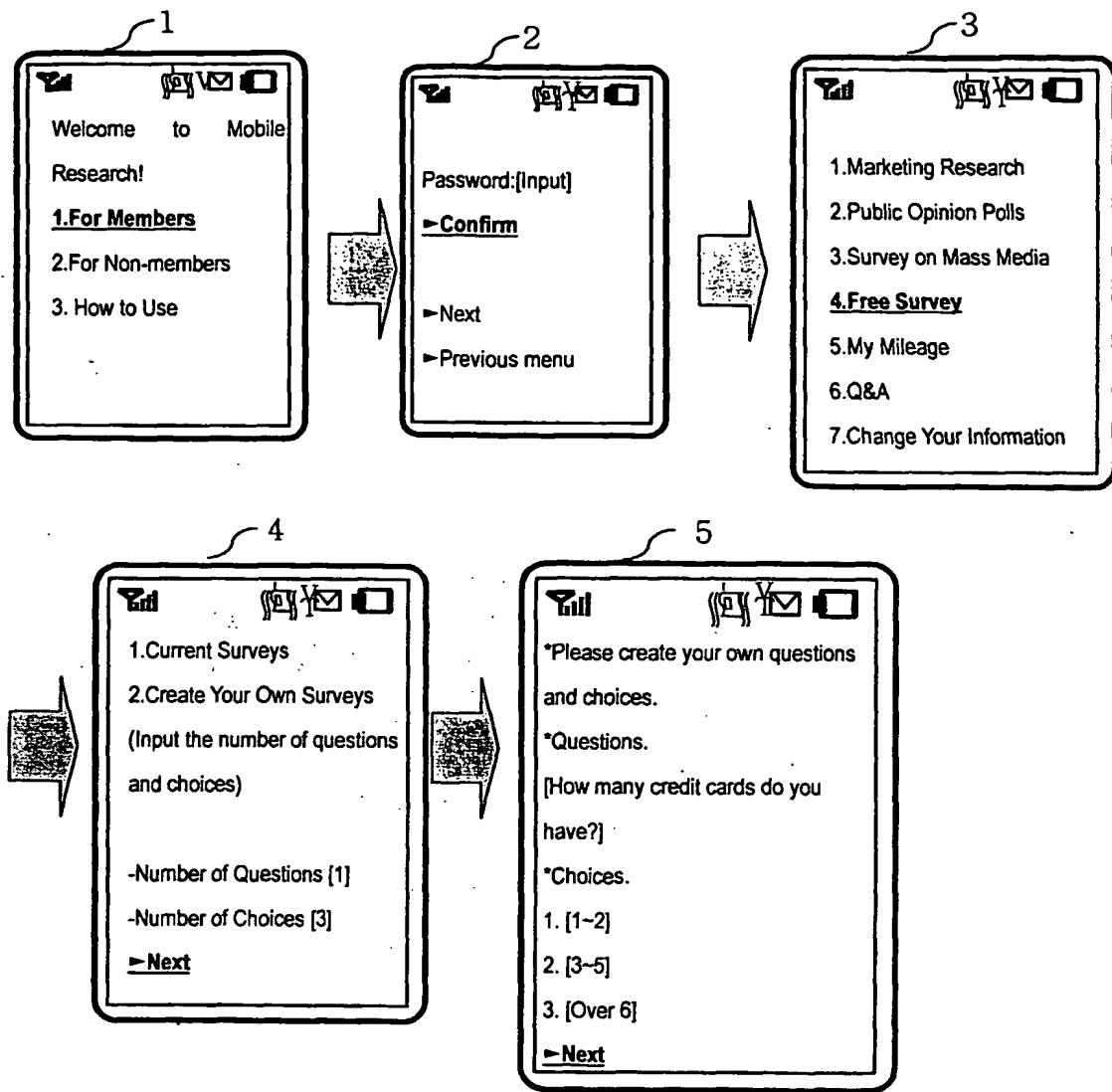
【FIG. 5】



【FIG. 6】



[FIG. 7]



**PATENT COOPERATION TREATY**  
**PCT**

**DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT**  
**(PCT Rule 17(2)(a), Rules 13ter.1(c) and 39)**

Applicant's or agent's file reference  pandp2001	<b>IMPORTANT DECLARATION</b>	Date of mailing (day/month/year)  28 JUNE 2002 (28.06.2002)
International application No.  <b>PCT/KR01/01947</b>	International filing date (day/month/year)  15 NOVEMBER 2001 (15.11.2001)	(Earliest) Priority date (day/month/year)  25 SEPTEMBER 2001 (25.09.2001)
International Patent Classification (IPC) or both national classification and IPC  <b>IPC7 H04Q 7/24</b>		
Applicant  LEE, Eun-Woo		

This International Searching Authority hereby declares, according to Article 17(2)(a), that **no international search report will be established** on the international application for the reasons indicated below.

1.  The subject matter of the international application relates to:
  - a.  scientific theories.
  - b.  mathematical theories.
  - c.  plant varieties.
  - d.  animal varieties.
  - e.  essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
  - f.  schemes, rules or methods of doing business.
  - g.  schemes, rules or methods of performing purely mental acts.
  - h.  schemes, rules or methods of playing games.
  - i.  methods for treatment of the human body by surgery or therapy.
  - j.  methods for treatment of the animal body by surgery or therapy.
  - k.  diagnostic methods practised on the human or animal body.
  - l.  mere presentation of information.
  - m.  computer programs for which this International Searching Authority is not equipped to search prior art.
2.  The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:
 

the description       the claims       the drawings
3.  The failure of the nucleotide and/or amino acid sequence listing to comply with the standard for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:
 

the written form has not been furnished or does not comply with the standard.
  the computer readable form has not been furnished or does not comply with the standard.
4. Further comments:  
Claims 1-2 relate to the methods of doing business, and claims 1-4 are so unclear that the scope of these claims are indefinite, therefore no meaningful search could be carried on said claims.

Name and mailing address of ISA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea	Authorized officer  BAE, Soon Goo  Telephone No. 82-42-481-5742
	